



Exchanging Network Measurement Data using Web Services

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Overview



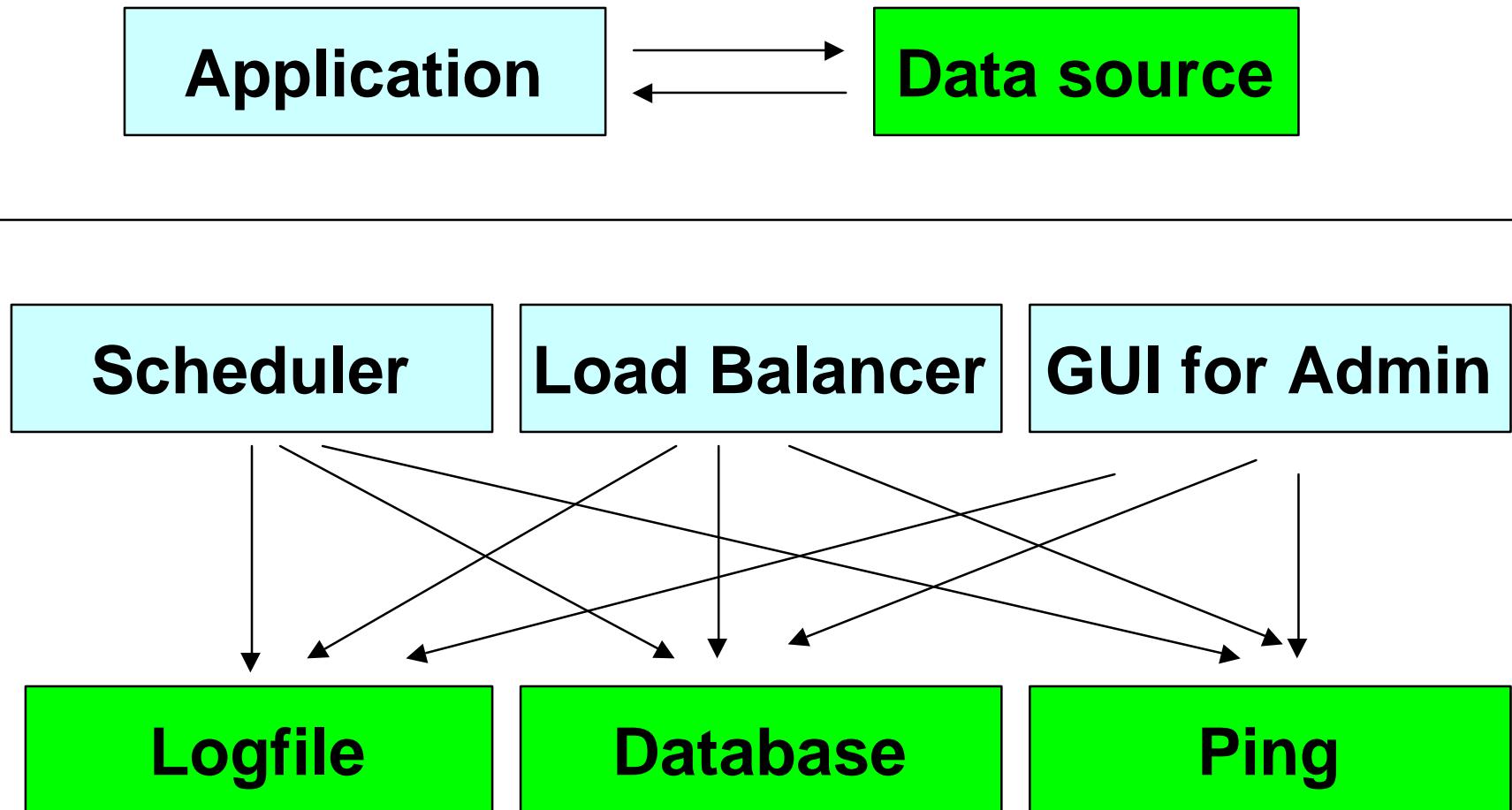
- **Intro: Why Exchange Network Measurements?**
- **Network Measurement Working Group**
- **Implementation of a Prototype**
- **References**

Why Network Measurement?



- The Grid: constantly changing
- Applications must adapt dynamically
- Applications need access to information about environment

Example



- NMWG: Network Measurement Working Group
- Purpose: agree on requirements and define a standard exchange format (protocol)
- Current work: use XML and web services to exchange measurement data
- 3 areas: request historical data, request new measurements, capabilities discovery

Layers



- Current approach viewed as layers:

Application

NMWG Protocol Layer

Data Storage / Tool

- Problem: too many contradicting requirements
- Solutions?

Possible Development 1



- One simple abstraction layer
- Multiple domain specific layers

Application

Application

domain specific layer

domain specific layer

simple abstraction layer

Data Storage / Tool

Possible Development 2



- Multiple domain specific layers
- E.g. for retrieving historical data/requesting new Measurements

Application

Application

domain specific layer

domain specific layer

Data Storage / Tool

Implementation of a Prototype

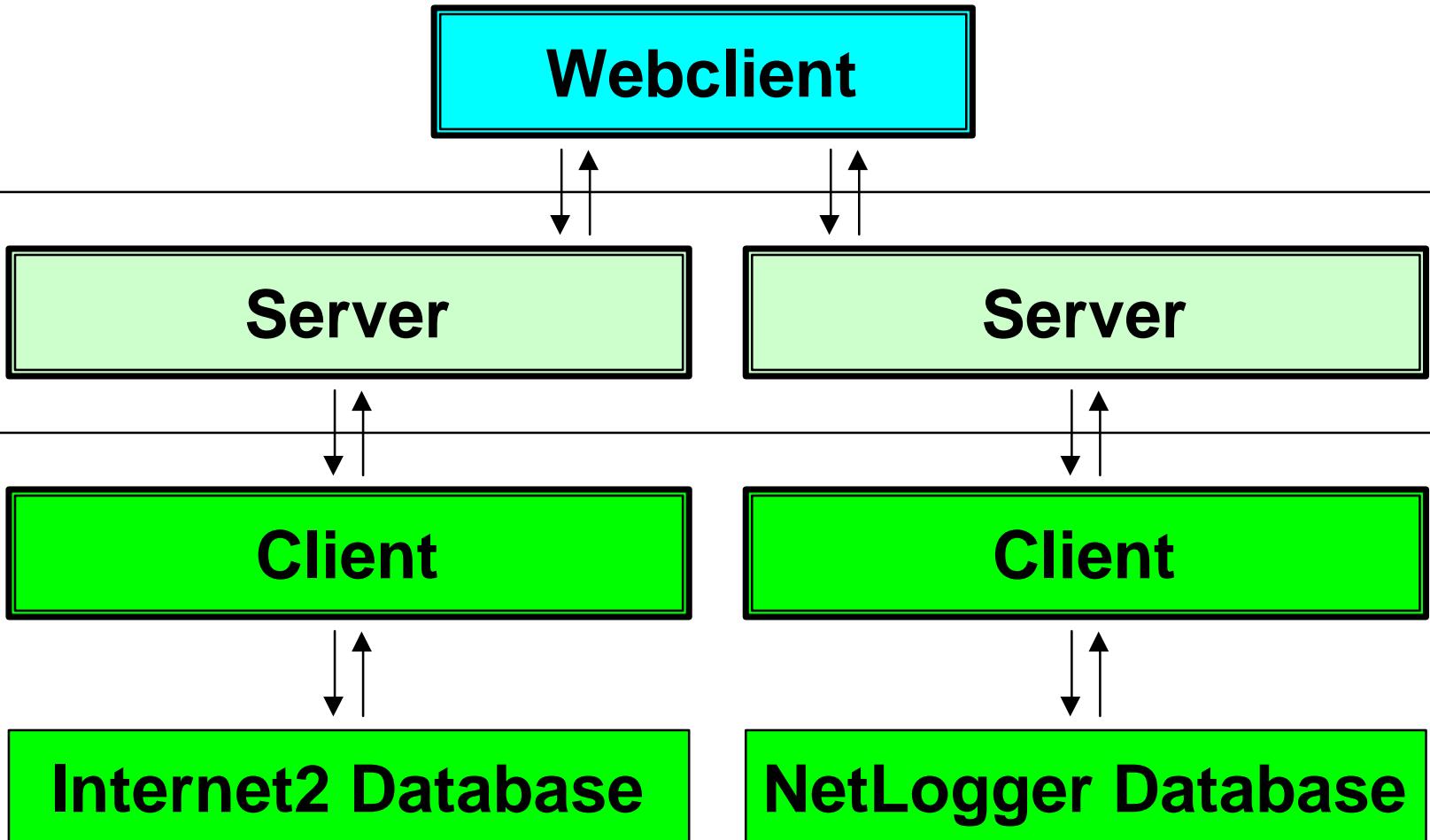
Technology: Python, Netlogger, ZSI



- Python: great for rapid prototyping
- Netlogger: lots of useful code (Brian Tierney, Dan Gunter)
- ZSI: Open Source Python SOAP Framework (contributions by Monte Goode and Joshua Boverhof for pyGridWare)

SOAP: A minimal set of conventions for invoking code using XML over HTTP. [Foldoc]

Prototype



References



- **Demo:**
<http://dsd.lbl.gov/~mele>
- **This presentation:**
<http://dsd.lbl.gov/~mele/talk>
- **NMWG Homepage:**
<http://www-didc.lbl.gov/NMWG/>
- **NetLogger Homepage**
<http://dsd.lbl.gov/netlogger/>
- **Python Webservices Project and ZSI on SourceForge:**
<http://pywebsvcs.sourceforge.net/>



Thank you